

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 2005/000010

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C22B 15/00, C22B 23/02, C22B 5/14  
According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C22B, F27D, C21C, B65G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6001148 A (TETSUO OKAMOTO ET AL), 14 December 1999 (14.12.1999), figures 1,5, abstract  --	1-14
Y	US 3796568 A (A.G. SZEKELY ET AL), 12 March 1974 (12.03.1974), figure 1, claim 1  --	1-14
Y	DE 3201608 A1 (DANIELI & C. OFFICINE MECCANICHE S.P.A.), 2 Sept 1982 (02.09.1982), figure 1, abstract  --	1-14

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance  
 "E" earlier application or patent but published on or after the international filing date  
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
 "O" document referring to an oral disclosure, use, exhibition or other means  
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

14 Sept 2005

Date of mailing of the international search report

20-09-2005

Name and mailing address of the ISA/  
 Swedish Patent Office  
 Box 5055, S-102 42 STOCKHOLM  
 Facsimile No. +46 8 666 02 86

Authorized officer

Mårten Hulthén/MP  
 Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 2005/000010

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5445363 A (JORGE O. BECERRA-NOVOA ET AL), 29 August 1995 (29.08.1995), column 5, line 35 - line 44; column 6, line 9 - line 21  --	1-14
A	File EPODOC/EPO,DOWA MINING CO et al: "Treatment of fine raw material in copper smelting" JP6212298 A, 02 August 1994 (1994-08-02)  --	1-14
A	US 6238457 B1 (ISMO HOLMI ET AL), 29 May 2001 (29.05.2001), claim 1, abstract  --	1-14
A	WO 0073519 A1 (OUTOKUMPU OYJ), 7 December 2000 (07.12.2000), abstract  --	1-14
A	US 4490170 A (LAUNO L. LILJA ET AL), 25 December 1984 (25.12.1984), column 4, line 66 - column 5, line 3, figures 1-2, abstract  --	1-14
A	US 4555387 A (BRUCE J. SABACKY ET AL), 26 November 1985 (26.11.1985), figure 6, abstract  -- -----	1-14

## INTERNATIONAL SEARCH REPORT

Information on patent family members

31/08/2005

International application No.

PCT/FI 2005/000010

US	6001148	A	14/12/1999	DE	19720420 A	20/11/1997
				JP	9310126 A	02/12/1997
US	3796568	A	12/03/1974	AU	473519 B	27/06/1974
				AU	5048872 A	27/06/1974
				CA	983724 A	17/02/1976
				JP	986725 C	21/02/1980
				JP	48078021 A	19/10/1973
				JP	54019373 B	14/07/1979
				PH	10860 A	16/09/1977
				ZA	7208336 A	25/07/1973
				ZM	19572 A	21/08/1973
DE	3201608	A1	02/09/1982	IT	1147487 B	19/11/1986
				IT	8183308 D	00/00/0000
US	5445363	A	29/08/1995	US	5296015 A	22/03/1994
				EP	0629708 A	21/12/1994
US	6238457	B1	29/05/2001	AU	730365 B	08/03/2001
				AU	4461797 A	24/04/1998
				BR	9712175 A	31/08/1999
				CA	2267296 A	09/04/1998
				CN	1113213 B,C	02/07/2003
				CN	1232538 A	20/10/1999
				DE	19782044 T	26/04/2001
				ES	2168932 A,B	16/06/2002
				FI	100889 B	00/00/0000
				FI	963932 D	00/00/0000
				ID	21552 A	00/00/0000
				JP	2001501294 T	30/01/2001
				KR	2000048734 A	25/07/2000
				PL	183755 B	31/07/2002
				PL	332671 A	27/09/1999
				RU	2198364 C	10/02/2003
				SE	517103 C	16/04/2002
				SE	9901200 A	31/05/1999
				TR	9900761 T	00/00/0000
				WO	9814741 A	09/04/1998
				ZA	9708694 A	26/03/1998

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

31/08/2005

International application No.  
PCT/FI 2005/000010

WO 0073519 A1 07/12/2000

AU	775396 B	29/07/2004
AU	4571300 A	18/12/2000
BG	64395 B	30/12/2004
BG	106131 A	31/05/2002
BR	0011079 A	19/03/2002
CA	2374888 A	07/12/2000
CN	1353771 A,T	12/06/2002
DE	60015391 D	00/00/0000
EA	3004 B	00/00/0000
EP	1242639 A,B	25/09/2002
SE	1242639 T3	
ES	2228516 T	16/04/2005
FI	105828 B	00/00/0000
FI	991226 D	00/00/0000
JP	2003500627 T	07/01/2003
MX	PA01011774 A	24/04/2002
PL	351867 A	30/06/2003
PT	1242639 T	28/02/2005
TR	200103379 T	00/00/0000
US	6565799 B	20/05/2003
ZA	200109325 A	18/06/2002

US 4490170 A 25/12/1984

CA	1198593 A	31/12/1985
DE	3241277 A,C	01/06/1983
FI	63780 B,C	29/04/1983
JP	1357006 C	13/01/1987
JP	58109129 A	29/06/1983
JP	61026413 B	20/06/1986

US 4555387 A 26/11/1985

NONE